

Appl. No. 09/890,532  
Amdt dated Jan. 18, 2006  
Reply to Office action of Oct. 19, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims**

**Claims 1-14. (Canceled)**

**15. (Previously presented)** A method for sterilizing vessels, comprising exciting a plasma in an interior region and at an exterior region of a vessel by electromagnetic oscillations, wherein

- the plasma sterilization in the interior region of the vessel and at the exterior region of the vessel are performed at different times by selective excitation of the plasma, the selective excitation of the plasma being effected by separate control of the pressure inside and outside the vessel (2), with the result that the plasma sterilization is performed in various regions of the walls of the vessel (2) in which plasma excitation takes place as a result of a pressure sufficiently below atmospheric pressure.

**16. (Previously presented)** The method of claim 15, further comprising

- carrying the vessel (2) into a chamber (3), in which at least a virtual vacuum can be produced, and

- supplying a gas suitable for exciting a plasma into the interior region of the vessel (2) via a feed line (7) shielded from the chamber (3), and establishing and maintaining a gas pressure in the interior region of the vessel such that a plasma is excited there and maintained for a predetermined length of time.

**17. (Previously presented)** The method of claim 16, wherein

- said gas pressure and said plasma in the interior region of the vessel (2) are maintained by means of an adequate level of the pressure value in the interior region of the vessel (2) compared to the pressure value in the chamber (3), even when there is a predetermined flow of gas out of the vessel (2) into the chamber (3) and an ensuing removal of gas from the chamber (3) by suction.

**18. (Previously presented)** The method of claim 16, further comprising,

- initially evacuating said chamber (3), and then introducing gas into the vessel (2) for exciting the plasma in the interior region of the vessel (2).

**19. (Previously presented)** The method of claim 18, further comprising the step of

- supplying a gas into the chamber (3) for exciting a plasma in the chamber (3) and thus on the exterior region of the vessel (2) as well, with simultaneous extinguishing of the plasma in the interior region of the vessel (2).

**20. (Previously presented)** The method of claim 15, further comprising the steps of

- placing the vessel (2) into the chamber (3), into which a gas suitable for exciting a plasma is carried, and
- establishing at least a partial vacuum in the interior region of the vessel (2), via a feed line (7) shielded from the chamber (3), and
- establishing and maintaining a gas pressure in the interior region of the vessel (2) such that a plasma is excited and maintained for a predetermined length of time in the interior region of the vessel (2).

**21. (Previously presented)** The method of claim 20, wherein

- said gas pressure and said plasma in the interior region of the vessel (2) are maintained by making the pressure in the interior region of the vessel (2) sufficiently low compared to the pressure in the chamber (3), even when there is a predetermined flow of gas out of the chamber (3) into the vessel (2) and an ensuing removal of gas from the vessel (2) by suction.

**22. (Previously presented)** The method of claim 20, comprising,

- in a first method step, the chamber (3) is supplied with the gas, and
- in a second method step, the vessel (2) is evacuated until the plasma in the interior region of the vessel is excited as a result of the incoming flow of the gas from the chamber (3).

**23. (Previously presented)** The method of claim 22, wherein

- in a third method step, the gas supply into the chamber (3) is stopped, for excitation of a plasma in the chamber (3) and hence on the outside region of the vessel (2) as well, with simultaneous extinguishing of the plasma in the interior region of the vessel (2).

**24. (Previously presented)** An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a chamber (3),
- a cone (4) providing a seat for mounting a vessel within said chamber, said cone (4) having a groove (5) on its exterior surface in the region of the seat of the vessel (2), and having conduit means for communicating, via a feed line (7), an interior region of a vessel seated on the cone with a gas supply (6) or pump (10) located outside the chamber (3);
- a pump (9) and/or a gas supply (11) connected to the chamber (3); and
- a plasma source (8) mounted on the outside of the chamber (3) and operable to excite plasma in the chamber.

**25. (Previously presented)** The apparatus of claim 24, further comprising

- said groove (5) having means for controlling the gas flowing through said groove between an interior region of a vessel seated on said cone and an interior region of said chamber (3).

**26. (Previously presented)** An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- chain link transportation means for supporting a plurality of vessels for transportation into a chamber (3), and a duct (23) acting as a suction removal or gas supply rail disposed as a vessel mount, on which the vessels (2) are carried virtually in pressure-tight fashion, and said duct (23) being connected for with a gas supply (6) or pump (10) located outside the chamber (3);
- a pump (9) and/or a gas supply (11) connected to said chamber (3); and
- a plasma source (8) mounted on the outside of the chamber (3).

**27. (Previously presented)** An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a transport box (30) having a plurality of holes (31) therein for receiving and transporting a plurality of vessels (2) into a chamber (3), and said vessels (2) being seated with their openings virtually in pressure-tight fashion, said transport box (30) including a bottom flange for communication with a gas supply (6) or pump (10) located outside the chamber (3);
- a pump (9) and/or a gas supply (11) connected to the chamber (3); and
- a plasma source (8) mounted on the outside of the chamber (3).

**28. (Previously presented)** The apparatus of claim 24, wherein

- the vessels (2) to be sterilized are of glass or plastic.

**29. (Previously presented)** The method of claim 17, further comprising,

- initially evacuating said chamber (3), and then introducing gas into the interior region of the vessel (2) for exciting the plasma in the interior region.

**30. (Canceled)**

**31. (Previously presented)** The method of claim 21, comprising,

- in a first method step, the chamber (3) is supplied with the gas, and
- in a second method step, the vessel (2) is evacuated until the plasma in the interior region of the vessel is excited as a result of the incoming flow of the gas from the chamber (3).

**32. (Previously presented)** The method of claim 31, wherein

- in a third method step, the gas supply into the chamber (3) is stopped, for excitation of a plasma in the chamber (3) and hence on the outside region of the vessel (2) as well, with simultaneous extinguishing of the plasma in the interior region of the vessel (2).